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GREEN AREA GRASS PLANT FROM PLANTS USAGE AREA AND THE PROBLEMS ENCOUNTERED DETERMINATION

ABSTRACT

Grass plant with the necessary precautions taken according to the morphological life cycle, a higher quality environment is provided to the grass plant and quality grass green area and forage plant are obtained. This study, which is made by using the most known and adapted grass species of the grass plant, which has many species in the world, grown spontaneously or cultivated in pasture areas in the Southeastern Anatolia Region, used as green or dry grass and mostly in green area facilities highly with the habitat and usage area of grass plant species identification of problems encountered it aimed. In this direction, subject to the province of Şanlıurfa some towns such as Çamlıdere, Kısas, Kabahaydar, Payamlı, Akpınar, Mehmetçik, Anaz and in the villages survey work has been done. Proportional with sample volume formula 99% confidence interval and 10% margin of error face to face with a total of 160 producers this method was used by interview. According to the research result, in our city, it is seen that the producers' knowledge on the subject is generally sufficient. An important part of the producers such as 83% grass plant mostly uses in green area facilities. Diseases, land, soil preparation and drainage are the main problems identified in the region for cultivation. To avoid problems basic operations on land and maintenance work where it should be, when it should be, and Our farmers should be to common thought have been determined to have.

Keywords: Determination, Grass, Green Area, Plant Usage

1. INTRODUCTION

Human needs green, natural environments due to creation. For this reason, green species are given a lot of space in the planning and implementation of modern cities. Green area plants, which constitute an important part of the outdoor spaces, are used in terms of architecture and aesthetics and constitute the recreation environment required by man [9]. Most of these green areas are covered wıth grass plants. Grass plants appear as an important element of landscaping in landscaping of structural areas, parks, gardens and recreation areas. In addition to being a good soil covering in sports fields, the lawn areas that cover their area perfectly prevent erosion effectively with their deep and deep root systems, and increase the beauty and thus the economic value of the landscape with homogeneous appearance and attractive green colors.

Apart from the aesthetic appearance and green space that these plants add to the environment, we see a great economic value and importance source of fattening of animals [2, 5 and 8]. Grass plants grow naturally in pasture areas and are used as green and dry grass as an animal fattening source. Grass plants can grow widely in various climatic zones of the world in a variety of genera and species. Due to

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the fact that our country has very different climatic regions, the grass, genus and species to be used in each region, sowing and planting times, the amount of material to be used and maintenance procedures show important privileges and require the application of different techniques. According to their usage, the quality of these plants is very important and it is important to keep the grass alive for a long time rather than growing grass. There are many factors that limit the development of grass and discolor. Because grass does not have a strong body, it is more sensitive to abiotic and biotic factors such as environmental stress than other plants. Since most of the lawns on grass fields are plants grown under artificial conditions, they are more sensitive than those grown under natural conditions. During the period between germination and emergence of grass plants, ie when they are plantlets, they are sensitive to environmental effects, seedling deaths are at the highest level and especially when the seeds are sown deep, germination and emergence damage occurs more. In some towns and villages of Şanlıurfa province in the research conducted with 120 farmers, spontaneously in pasture areas or cultivated and cultivated, used as green or dry grass and usage areas of grass plant species, which have a large area in green area facilities, of the problems encountered against diseases and pests what to do detection it aimed.

2. IMPORTANT SPECIES OF GRASS PLANTS

The first plants that come to mind within the soil covering plants are grass. Grass is a term that describes plants that spread very close on the surface of the soil, which grip and cover having fringe roots. The plants most suitable for grass in terms of function and appearance are in the Gramineae family. This family consists of about 600 genera and 7.500 species [7]. The only two important species of them, the English grass and the Italian grass, are two important species adapted to the Southeastern Anatolia region.

- **English Grass *(Lolium perenne):*** English grass (*Lolium perenne*), which is adapted to regions where the relative humidity is high, temperate, winters are not harsh, and where the sea climate is dominant, is grown in many regions of our country and used in green field plant. Since the plant has a very short hibernation period, it is very sensitive to Frost. It cannot develop in harsh climates. It's not dry-proof [10]. English grass develops well in soils with heavy structure and rich in organic matter, it does not develop well in shady environment. Providing sufficient amount of moisture and fertilizer to the soil, the plant can benefit from the nutrients can develop in poor and light soils [10].
- **Italian Grass (*Lolium italicum A.Br.=L. Multiflorum lam.*):**The Italian grass, which is a perennial grass plant, is very high quality. It can be grown in mixture with pure or other forage crops for grazing and obtaining dry grass. Dairy is very effective for purpose-grown businesses. It is also used as a green field plant. This grass plant is easier to grow on fertile soil and the quality is so high. It's not dry-proof. It can be grown in areas prone to irrigation or rainfall during known perıods of the year. Since the seeds are small, careful preparation of the seed bed should be ensured to make the soil crumble thoroughly. Plantıng can be done as a sowing machine or sprinkling. To achieve high yield in weed quality and dairy farming, fertilization is very key to keep the quality at the desired level. Seed quantity, according to the purpose of use,

approximately 2.5-3kg seed is thrown into the acre. In green areas, 50-60kg of seed should be thrown into the acre during planting. Dry grass yield is between 300-400kg per acre. The yield of Italian grass is slightly greater. Seed yield is between 50-60kg per acre.

2.1. General Uses of Grass Plants

Since grass plant species are resistant to grazing animals, they are used as winter pastures especially in areas where winters are not severe. In addition, perennial grass plants are often used in mixtures prepared to establish Meadow pasture, but they are also considered silage. It can develop well, especially in both heavy and sandy soils, but it shows its best development in very well-processed and supported soils with animal manure [11]. They prevent soil from being eroded and dragged due to having root structure rooted in the eaves. This type of plant is helpful in preventing erosion problem in areas where there is more erosion [6]. Since grass plants can make more than one form within the development period, they are very much preferred in the production of dry grass. Among the advantages, green grass, dried leaves do not fall and the green color is not lost much. Millions of farmers graze their animals by using this delicious plant directly as a pasture. Besides, it is very common as second crop after cereals. It has very high protein and energy. It is eaten with appetite by animals thanks to its sugary and easy digestibility. Grass plants are more used to fight erosion due to their fast germination feature. In addition, it is preferred to grow the grass plant in order to preserve the water in the soil. The strong root structure of the grass plant greatly inhibits surface erosion of the soil [3].

2.2. Used in the Study Process and Method

In determining the producers participating in the questionnaire, the following ‘was used in order to determine the number of producers who are included in the sample and the probability of being an example for all producers [4]. Proportional Sample Volume Formula:

Formula 1 $$n = \frac{Np(1-p)}{(N-1)O-2Px+p(1-p)}$$

Table 1. Diseases and the methods of struggle applied by our farmers from the problems of grass crops that are grown in the pastures and used in the green field facility (%)

Problems Encountered in the Usage Area	Cultural Measure	Physical Measure	Chemical Measure	Total
Bottom Rot	23.8	12.2	64.0	100
Fusarium	27.2	14.3	58.5	100
Ophiobulus Patch	12.4	25.8	61.8	100
Sclerotinia Speckle	18.5	6.8	74.7	100
Mushroom Rings	11.7	6.5	81.8	100
Brown Patch	10.8	24.7	64.5	100
Rust	37.2	12.3	50.5	100
Powdery Mildew - Mildew	34.6	21.2	44.2	100
Pythium Herpes	20.5	14.6	64.9	100
Leaf Speckle	12.9	18.4	68.7	100
Mosses	9.7	27.5	62.8	100
Algae and Lichens	11.5	17.2	71.3	100

According to the research result 97% of farmers identify problems and in your struggle first of all physical and take cultural measures, then they prefer the application of chemical control methods reported. Chemical control as their last method of struggle it has been identified. In the study, the most common disease Ashing-Mildio

91.2% has been identified. In producers' minder-mildio struggle, 44.2% chemical control, 34.6% cultural struggle, 21.2% physically struggling has been identified. According to the results obtained the most chemical struggle in the region with 81.8% used for mushroom rings. Again, the lowest physical struggle applied for mushroom rings with 6.5%. Excessive and incorrect watering it is concluded that it is effective. Research findings, in the fight against disease and pest the first preferred method of protection cultural and physical struggle it was determined that the next application was chemical control.

2.3. Problems Encountered in Grass Plant

2.3.1. Bottom Rot (Dampingoff)

Yellowing of the plant, small bronze spots and seedling stem decaying from the bottom of the break and drying results in this disease. It is caused by many soil fungi (fungi), but the most common species are the phythium and cladochytrium. The plant infected by disease falls off like a cut. Seedling seen to change color, SAP rot by hand is immediately self-evident. In closed, cloudy weather, heavy irrigation increases disease and all engineers and farmers know this.

Figure 1. Problems in grass plant example of bottom rot

- **Measures:** Culturally, care should be taken; Ph should be neutral, avoid heavy and excessive irrigation, soil should be strained. Anilazine, Beyomyl, Chlorothalonil, Phenarimoi, Iprodione, Thiophanates, Triadimephon and Mercury fungicides can also be used to fight chemically.

3.3.2. Fusarium

Fusarium niyale is the most common disease in the grass area. The disease occurs most often in humid hot autumn, winter and sometimes spring. The disease appears when the snow melts on the grass. This is why it is called snow mould. The disease begins initially with a cottony formation on the plant and on the leaves, then turns to yellowish and brown spots and gradually spreads by forming circles 3-20cm in diameter. In humid weather, the fungus (fungus) increases its effect and becomes hatted white or pale pink and causes the death of the plant in small groups. In grass plants poa, lolium and festuca rubra are more susceptible to disease. So, attention should be paid to cultural measures for rubra.

Figure 2. Problems in grass plant example of fusarium

- **Measures:** Although it is not easy to stop a severe disease, it can be controlled by fungicides containing benomyl, Thiabendazole, Thiophanatemetyl or Quintezone. According to the course and severity of the disease, the ratio of the mixture, use and the application should be made in the manner and quantity specified by the drug-producing companies. In the first signs of the disease and in the case of mild violence, m^2 to 6-7 iron sulphate 2 melted in water should be used. Autumn is the most suitable season for application and is repeated monthly according to the activity status of the disease. Also; Fungi such as Calomel, corrosif sublimation (perchloride) and organic mercury compounds, and much cheaper and simpler malachite green burgundy blend dyes are also among the effective substances.
- **Cultural Measures:** Ventilation and drainage should be good and regular. Nitrogen fertilizer should not be given in late summer and fall. The grass should be kept clean and the waste should be removed from the area. Ghosting in grass should be prevented as much as possible.

2.3.3. Ophiobulus patch

More commonly, there is Ophiobulus graminis, which occurs in spore areas and its presence makes the straw yellow or darker. It's a disease caused by avenae. The disease occurs mostly in late summer and autumn in the maritime climate. Soil moisture and base environment are suitable environments for disease. Agrostis species are susceptible to disease, Fustica species, Poa praternsis, Lolium perenne are more resistant.

Figure 3. Problems in grass plant example of ophiobulus patch

- **Measures:** Ammonium sulfate fertilizer is applied in the spring and the soil calcification in the fall is the most appropriate action for the measure. If the disease has progressed, the disease has a power of control. In these cases, where small spots are seen, the grass is removed and re-grass is made. If the area of disease is large, mercury fungicides are applied and again, the grass of these places is given ammonium sulfated fertilizer to create mildly acidic environment. 1kg of effective material can be sufficient for every 100m^2 area.

2.3.4. Sclerotinia Speckle

Sclerotinia can be confused with cor-ticium in the early stages of the disease caused by homeocarpa. 3-5cm diameter straw-colored pale spots appear in the grass caught the disease, then these spots form an informal group of spots. The initial round spots are called 'dollar speck-dollar spot' because Americans resemble the Silver Dollar. Diagnosis (identification) of the disease is very difficult and requires experience. Fetuca rubra is very susceptible to the disease. Agrostis, Cynodon dactylon, Lolium perenne, Poa pratensis may also be a disease factor. The disease occurs frequently in the days following hot, humid and cold nights in spring and autumn.

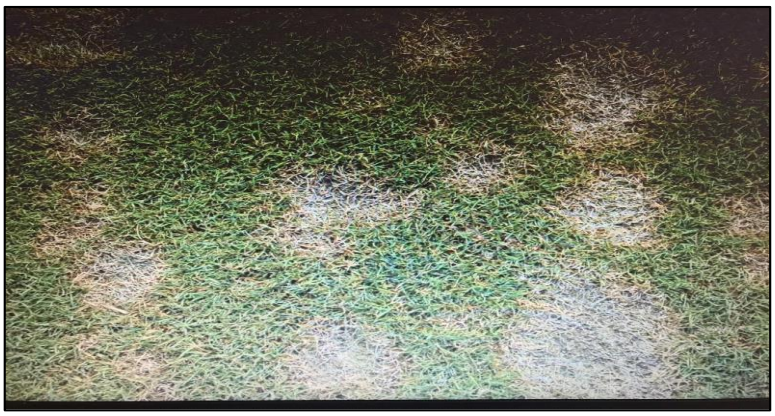

Figure 4. Problems in grass plant example of sclerotinia speckle

- **Measures:** Fungicides with organic and inorganic mercury and especially with cadmium mixture (5% Cadmium carbonate, 60% Folpet, 10% Thiram) are effective. Fungusites with Anilazine, Benomyl, Chlo-rothalonil, Phenarimol, Thriophanates, and Triadimephon can also be used. As a cultural measure, disease-resistant cultivars should be chosen instead of sensitive grass plants. Nitrogen fertilizers are given weight, the area is kept clean and watered deeply when necessary.

2.3.5. Mushroom Rings

Fungal rings are different from other fungal diseases and are formed by true hatted fungi (champion), which can regenerate in them. The event begins with the fungus micelles clinging on organic residues in the soil, and develops by creating circular rings. The grass around the ring takes on a pale colour or dies. About 50 species of fungi have been identified, mainly in the ring-making fungi Lycoperdon, Psalliota, Agaricus, Basi-diomycete and Marasmius groups. Fungi are not parasites for lawns. It's only harmful because they disrupt the environment. Since the micel network does not leak water, the plant mostly faces drought. Generally, lawns inside and outside the ring can maintain their normal development. However, as the appearance of the

lawn deteriorates, the places where the micelles operate become bare. As a result the dense micelle network prevents the soil from aeration and water permeability. A very typical and large example of this event was seen in the winery grassland of Kırklareli, Skopje and it was determined that the ring formed a 50-60cm wide circle of micel and a circle of 7-8m.

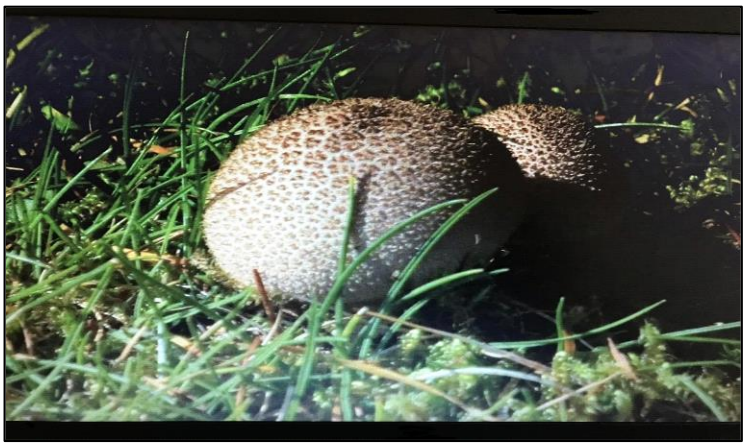

Figure 1. Problems in grass plant example of mushroom rings

- **Measures:** It's not easy to destroy mushroom micelles. They cannot be removed by mechanical means, since they reproduce. Although not certain, fighting fungicides is more effective. It is also harmful to apply iron sulfate to the grass in the beginning. The application of formaldehyde yields positive results. However, since formaldehyde is a dangerous substance, care should be taken not to infect the surrounding grass. Instead sulfated compounds, for example iron sulfate, are used. After watering the grass area, 7L water 500gr iron sulfate Plum is prepared and applied to m^2 2-2.5 liters. In order to obtain a definite result from formaldehyde and others, the grass in the places where micelles operate must be removed and removed with soil and these places must be renewed with grass after being medicated.

2.3.6. Brown patch

At high temperature (20°-30°C) and humidity is more than in the summer months (July-August) emerging disease, grass plant leaf and sap part of the effectiveness of the drying plant. The drier parts form large, 1m and more roundly greyish brown spots on the grass. The edges of the spots absorb more water and these parts take on a dark green color and look surrounded by the spot. The disease occurs in Agrastis, festuca, lolium and especially Cynodon dactylon and other warm climate plants. It is resistant to Poa pratensis.

Figure 6. Problems in grass plant example of brown patch

- **Measures:** Culturally, nitrogenous fertilizer should be avoided, shade should be reduced in the grass area, grass should be kept clean and should be watered profusely and deeply when necessary. Anilazine, Benomyl, Chlorothalonite, Phenarimol, Iprodione, Thiopha-nates, and fungusites with triadimephone can be used in the fight against chemical drugs.

2.3.7. Rust

In accordance with its name, the diseased lawns take on a rust-colored appearance. The powdered spores that cause disease form groups in the circular or longitudinal leaf foot. The disease, rather than grass fields, is the case for grass crops grown for the purpose of obtaining seeds. In humid weather and normal temperature, with dew in the grass within 10-12 hours spores develop and disease occurs. Any factor that stalls the growth of grass encourages disease. All other grasses, especially Poa pratensis and Lolium perenne, are more or less affected by the disease.

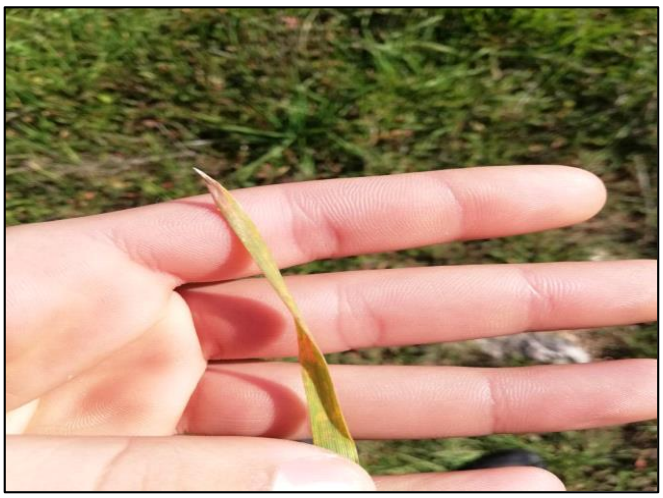

Figure 7. Problems in grass plant example of rust

- **Measures:** With nitrogen fertilizers and irrigation, the grass should be grown rapidly and mowed every 4-5 days. Use of fungicides is not recommended unless the disease is serious; otherwise, Avilazine, Maneb, Chlorothalonil, Cycloheximide or Triadimephone may be used.

2.3.8. Powdery Mildew-Mildew

The disease appears with greyish-white moldy spots on the Leaf foot, and the leaves at the bottom become completely yellow. Mostly, it occurs on the grass in the shade. Another cause is the lack of air circulation of the plant. Cynodon dactylon, Poa pratensis is susceptible to disease. It is resistant to the 'BIRKA', 'GLADE' and 'NUGGET cultivars of Poa praten-sis.

Figure 8. Problems in grass plant example of powdery mildew-mildew

- **Measures:** Avoid shade in the grass, excessive irrigation and fertilization should not be done, the environment should be kept airy and clean. Fungicides containing benomyl, Cycloheximide and Triadimephone can be used to combat the chemical.

2.3.9. Pythium Herpes; Pythium White (Pythium blight) Collapses

Fusarium occurs in late spring and summer when the air temperature is 20 degrees Celsius, which precipitates caused by fungi such as Phythium and Rhizoctonia. It's very common in newly built lawn. The disease spreads from 5-10cm to 1m wide in diameter, like a pale cotton pile or as oil stains. Diseased areas are surrounded by blackened leaf pillars with whitish fungi (fungi) on them. The disease occurs in high hot and humid weather and reproduces, pausing in dry weather. Cynodon, Agrostis, Poa, Loliutn are disease-sensitive grasses.

Figure 9. Problems in grass plant example of pythium herpes

- **Measures:** Excessive irrigation and excessive fertilizer should be avoided in hot weather. Against possible disease, plantings should be done in the fall and delayed. Bad drainage needs to be eliminated. Chemically, Chloroneb, Etridiazole, Metalaxyl or Propamocarb can be administered when the disease first appears.

2.3.10. Leaf Speckle (Leaf spot; Melting out)

The disease occurs along the leaves, in the appearance of round, burnt spots with Pinkish Black edges and brownish straw-colored spots in the middle. Cynodon, Dactylon, poapratensis, Festuca are the plants that are most susceptible to the disease. The disease continues its activities from spring to mid-autumn with temperatures between 10°C and 20°C and in a humid environment. They are more frequent and primarily infected with the disease on grass in very short mown and shade places.

Figure 10. Problems in grass plant example of leaf speckle

- **As Cultural Measure:** Shade areas in the grass should be reduced, ventilation and drainage of the soil should be regular. Also, mowing heights of plants should be considered. Cultuvars that are not susceptible to disease should be selected. For example, Poa pratensis 'delta', 'kenblue' and ' park'Cultuvars are very sensitive and more resistant than other cultuvars. Fungicide is recommended to be administered to Anilazine, in diameter, Chlorothalonil, Cycloheximide, Ipodione and Mancozeb.

2.3.11. Mosses

Moss usually occurs in shallow soils and canopy, where grass is sparse. Algae can reproduce very easily with spores, and especially, it can settle on acidic and poor soils. Although there are many algae species in the grass areas, the most common ones are Ceratodon purpureus, Hypnum cupressiforme and Polytrichum commu.

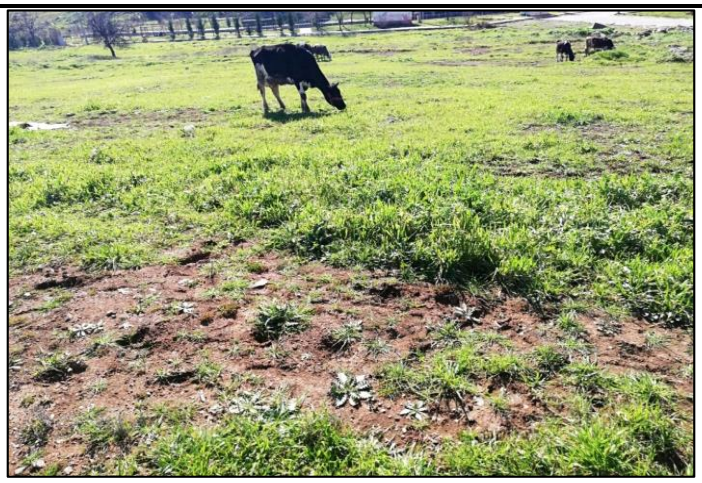

Figure 11. Problems in grass plant example of Mosses

- **Measures:** If it is not successful by mechanical means or by changing environmental conditions such as acidity and poverty to remove it from the mossy area, the chemical route is applied. Compounds such as "ammonium sulfate", "copper sulfate", "iron sulfate" can be used for this purpose. Copper sulfate or 3-4kg ammonium sulfate or 2-3kg iron sulfate are sufficient amounts for an area of 100m^2. In dry weather applications should be done repeatedly. Ammonium sulfate may have the effect of overgrowth, as spring is the best time to meet the cold climate plants.

2.3.12. Algae and Lichens

In grassland, algae occur in dark areas, often in airless, congested and extremely wet parts of the soil. A green, blueish green "Nostoc" type is encountered.

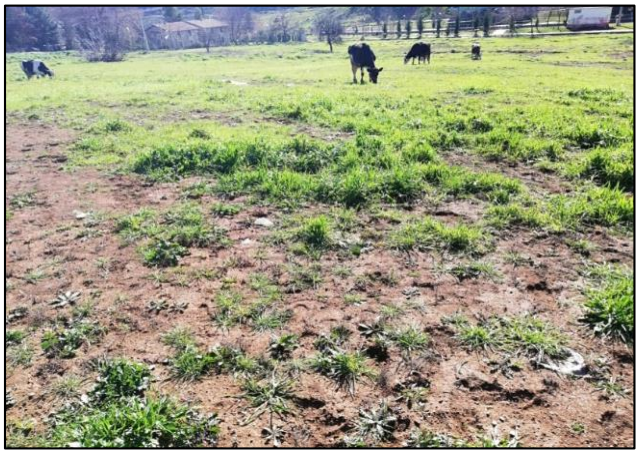

Figure 12. Problems in grass plant example of algae and lichens

- **Measures:** For algae, an average of 8-10 grams of copper sulphate is sufficient for an area of 100m^2. In addition, "Maneb" and "Mancozeb" containing drugs are used [12]. Lichen, which is a common life of algae and fungus, occurs among the grass in poor and acidic environments. Brown Peltigera cana type is common in lawns. Sulphated compounds, for example "Iron sulfate", are effective (1.5-2kg Iron sulfate per 100m^2 area).

3. CONCLUSIONS AND RECOMMENDATION

Of the disease caused by some reasons on the grass hard to see and it is difficult to recognize if bacteria, fungi originates, but usually occurs with harm and it reveals itself somehow. These disease factors are generally during the preparation of the lawn area wrong soil preparation, lack of drainage and especially irrigation form of fertilization and made mistakes, wrong in cleaning plant waste in terms of total plants it was determined that it originated. Destroyed grass, reinstatement often gives unsuccessful results. That's why, to eliminate the possible causes of these negative conditions is the most correct way. For this first, our region the principle of suitability for grass plant growing environment taking into account the natural nature of the grass plant or choices of their cultivars must be done right. In making grass plants, place, soil preparation, basic operations such as drainage are appropriate and it should be made completely. And finally, maintenance work is in place, on time and in required dimensions it should be done. Precautions the way of getting rid of all harmful factors by making the plant in a certain order with cultural, mechanical or chemical means and provides a quality grass plant. Similarly, manufacturers about grass plant it has been determined that there are very high levels of information. A significant number of manufacturers in the future the importance of grass plant production saying that it will increase gradually, 35.2% of the producers said that they would not be like that, they thought their integers.

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